

IN THE CLAIMS:

Please cancel claims 1-16, and 18-19 without prejudice or disclaimer as to the subject matter contained therein.

Please amend the claims as shown in the following claims listing.

1-19. (Cancelled)

20. (New) A wireless communication device comprising:

a host processor and configured to execute instructions belonging to an instruction set of a first processor family; and

a reconfigurable processor core coupled to the host processor, wherein the reconfigurable processor core includes a plurality of processors, wherein portions of the plurality of processors are selectably configurable to execute instructions belonging to a plurality of instruction sets;

wherein a first portion of the plurality of processors is configured to execute instructions belonging to an instruction set of the first processor family;

wherein a second portion of the plurality of processors is configured to execute instructions belonging to an instruction set of a second processor family;

and

wherein the host processor and the reconfigurable processor core are both located on a single integrated circuit die.

21. (New) The device as recited in claim 20, further comprising a processor type select circuit configured to selectably configure the reconfigurable processor core to process instructions belonging to either an instruction set of the first processor family or an instruction set of the second processor family.

22. (New) The device as recited in claim 21, wherein processor type select circuit configured to selectably configure the second portion of the plurality of processors to

execute instructions belonging to an instruction set of the first processor family subsequent to the second portion of the plurality of processors processing instructions belonging to an instruction set of the second processor family.

23. (New) The device as recited in claim 20, further comprising a plurality of digital signal processors configured to execute instructions corresponding to one or more embedded functions.

24. (New) The device as recited in claim 20, wherein the second portion of the plurality of processors collectively forms a second host processor.

25. (New) The device as recited in claim 20, further comprising an analog circuit portion located on the integrated circuit and coupled to a digital circuit portion that includes the host processor and the reconfigurable processor core, wherein the analog circuit portion includes:

- a cellular radio core configured to provide two-way communication via one or more wireless channels;
- a radio sniffer coupled to the cellular radio core; and
- a short-range wireless transceiver core coupled to the cellular radio core and configured to provide two-way communication via one or more short-range wireless channels.

26. (New) The device as recited in claim 25, wherein the reconfigurable processor core is coupled to the cellular radio core, and configured to process instructions corresponding to a plurality of wireless radio communication protocols.

27. (New) The device as recited in claim 26, wherein the plurality of wireless radio communication protocols includes a Bluetooth™ or IEEE802.11 protocol.

28. (New) The device as recited in claim 26, wherein the plurality of wireless radio communication protocols includes a Global System for Mobile Communications (GSM) protocol.
29. (New) The device as recited in claim 26, wherein the plurality of wireless radio communication protocols includes a General Packet Radio Service (GPRS) protocol.
30. (New) The device as recited in claim 26, wherein the plurality of wireless radio communication protocols includes an Enhance Data Rates for GSM Evolution (Edge) protocol.
31. (New) The device as recited in claim 25, further comprising a router coupled to the host processor, the cellular radio core, and the short-range wireless transceiver core, wherein the router is configured to track destinations of packets and to send the packets in a parallel through a plurality of separate wireless communication channels.
32. (New) The device as recited in claim 31, wherein the router is further configured to determine which of the plurality of separate wireless communication channels provides an optimum transmission medium, and to send the packets in a parallel in response to determining that more than one or more channels is less than optimum.
33. (New) A method comprising:
executing instructions belonging to an instruction set of a first processor family on
a host processor; and
selectably configuring portions of a plurality of processors of a reconfigurable
processor core to execute instructions belonging to a plurality of
instruction sets;
executing instructions belonging to an instruction set of the first processor family
on a first portion of the plurality of processor cores;
executing instructions belonging to an instruction set of a second processor family
on a second portion of the plurality of processor cores; and

locating the host processor and the reconfigurable processor core on a single integrated circuit die.

34. (New) The method as recited in claim 33, further comprising selectably configuring the reconfigurable processor core to process instructions belonging to an instruction set of the first processor family.

35. (New) The method as recited in claim 34, further comprising selectably configuring the second portion of the plurality of processors to execute instructions belonging to an instruction set of the first processor family subsequent to the second portion of the plurality of processors processing instructions belonging to an instruction set of the second processor family.

36. (New) The method as recited in claim 33, processing instructions corresponding to a plurality of wireless communication protocols on the reconfigurable processor core.

37. (New) The method as recited in claim 36, wherein the plurality of wireless communication protocols includes a Bluetooth™ or IEEE802.11 protocol.

38. (New) The method as recited in claim 36, wherein the plurality of wireless communication protocols includes a Global System for Mobile Communications (GSM) protocol.

39. (New) The method as recited in claim 33, further comprising:
determining which of a plurality of separate wireless communication channels of the plurality of wireless communication protocols provides an optimum transmission medium;
tracking destinations of packets and sending the packets in parallel through a plurality of separate wireless communication channels in response to determining that more than one wireless communication channel is less than optimum.

40. (New) A communication system comprising:
- a system host processor;
 - a wireless communication device coupled to the system host processor and configured to provide wireless communication using a plurality of wireless communication protocols;
- wherein the wireless communication device comprises:
- a wireless host processor located on an integrated circuit and configured to execute instructions belonging to an instruction set of a first processor family; and
 - a reconfigurable processor core fabricated on the integrated circuit and coupled to the wireless host processor, wherein the reconfigurable processor core includes a plurality of processors, wherein portions of the plurality of processors are selectably configurable to execute instructions belonging to a plurality of instruction sets;
- wherein a first portion of the plurality of processors is configured to execute instructions belonging to an instruction set of the first processor family;
- wherein a second portion of the plurality of processors is configured to execute instructions belonging to an instruction set of a second processor family; and
- wherein the host processor and the reconfigurable processor core are both located on a single integrated circuit die.